DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182

denr.sd.gov

January 28, 2016

Ernst Temperli
Crosswind Jerseys, Inc.
21672 482nd Avenue
Elkton, SD 57026-7223

RE: Crosswind Jerseys, Inc. Manure Management System
As-Built Plans Review

Dear Mr. Temperli:

The Department of Environment and Natural Resources received four copies of the as-built plans for your manure management system and the permeability test results for the completed clay liner for holding pond 2 on January 22, 2016. The manure management system is located in the Southeast ¼ of Section 15, Township 109 North, Range 48 West in Brookings County, South Dakota.

Your permitted manure management system is for a housed lot feeding a maximum of 1,400-head of dairy cattle consisting of 1,300-head of mature dairy cattle and 100 calves. Your system consists of a scraper/flume system in each of the three barns (the west half of the south barn has not been constructed), piping, a milk parlor, calf huts, diversion dikes or channels, a concrete sand settling lane, a concrete sand stacking pad, two settling ponds, one holding pond, a runoff holding pond for the feed bunker, a clay-lined manure stacking pad, a clay-lined sand stacking pad, and 1.85 acres of drainage area. The settling ponds and the holding pond have at least 270 days of liquid storage capacity. The runoff holding pond is designed to hold the runoff from the feed storage area occurring during a 25-year, 24-hour storm event.

The department has also approved plans which include enlarging and moving the existing clay-lined sand storage pad to the east, pouring concrete for the pad, and removing the existing clay-lined manure stacking pad which will increase the total drainage area to 2.97 acres, changing the maximum animal numbers to 2,300-head of mature dairy cattle and 50 calves, constructing a second holding pond which will increase the manure management system liquid storage capacity to 365 days, and constructing a fourth freestall barn.

We approved revised plans and specifications for your project on March 19, 2015. The current as-built changes consist of the following:

- The bottom dimensions of holding pond 2 were changed from 194.0 feet by 170.0 feet to 196.5 feet by 157.0 feet. With the changes to holding pond 2, the volume below the permanent marker decreased from approximately 1,954,271 cubic feet to 1,873,856 cubic

feet;

- The top dimensions of holding pond 2 were changed from 374 feet by 350 feet to 384 feet by 338 feet. With the changes to holding pond 2, the volume above the permanent marker decreased from approximately 54,636 cubic feet to 52,890 cubic feet;
- The permanent marker for holding pond 2 was changed to a 2-inch galvanized steel pipe instead of a 2-inch concrete filled PVC pipe or steel "t" post and the permanent marker was installed along the west berm instead of being installed in the southwest corner of pond 2;
- The concrete chute and splash pad beneath the piping in holding pond 2 was changed. The length of the splash pad was decreased from 5 feet to 3 feet and 6-inch high curbing was installed on the sides of the chute/splash pad;
- The elevation for the piping between the combined settling pond 2/3 and holding pond 1 was changed. The upper pipe elevation was changed from 116.0 feet on both sides to 116.55 feet in settling pond 2/3 and 116.5 feet in holding pond 1. The lower pipe elevation was changed from 110.0 feet on both sides to 111.7 feet in settling pond 2/3 and 111.3 feet in holding pond 1;
- A 195.0 feet by 161.5 feet concrete feed storage pad addition was constructed south of holding pond 2; and
- With these changes, the manure management system still has at least 365 days of liquid storage capacity.

We have reviewed and hereby conditionally approve the changes shown on the as-built plans and accept the permeability test results as meeting the requirements of the general permit. Two copies of the as-built plans are being kept for our files. Please replace the appropriate pages in your plans and specifications booklet with the revised pages enclosed with this letter and add any additional pages enclosed with this letter into your plans and specifications booklet. Please see the following requirements.

Feed Storage Area

Your engineer must submit a cross section of the expanded concrete feed storage pad. Also, during the department's June 2, 2015, operation and maintenance inspection it was noted that the feed storage area runoff holding pond had been filled in and you indicated the feed was now entirely covered. You must submit an updated, signed operation and maintenance guideline to the department that indicates all feed stored on the feed pads will remain covered. Please note if the department finds process wastewater runoff leaving the feed storage area, you may be required to contain the runoff.

Relocated Sand Storage Pad and Veterinary Area

The department has approved the relocation of the sand storage pad and a veterinary area on the north side of the southeast freestall barn. Your engineer indicates these components are not yet constructed and the dimensions and details may change. Therefore, the department is not

approving any changes to these components at this time. Please have your engineer submit as-built plans for the relocated sand storage pad and proposed veterinary area when they are completed.

Calf Hut Location

The plans and specifications do not indicate the location of the existing calf huts. The calf huts were originally approved to be located along the south side of the middle freestall barn (the freestall barn directly east of the milk parlor). Please have your engineer show the location of the calf huts on the plans and submit the plans to the department.

Recycle Wet Well

Your engineer indicates the proposed 12-inch PVC piping between holding pond 2 and the existing wet well will be installed in the future. Your engineer must submit a revised detail of the recycle wet well showing how the pipe is connected to the recycle wet well. If the pipe penetrates the side of the wet well, your engineer must indicate how the pipe penetration is sealed.

If you have any questions regarding the content of this letter, please feel free to contact Ben Myers, Feedlot Permit Program at (605) 773-3351. Thank you for your cooperation.

Sincerely,

Kent R. Woodmansey, PE, Engineering Manager
Feedlot Permit Program

cc: Brian Friedrichsen, PE, Dakota Environmental Inc, Huron, SD
Brookings County Commissioners
Luke Muller, F.D.A.L.G., Watertown, SD